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7430371 ° INSPEC Abstract Number: C2002-12-6180G-003

**Title:** A design of a graphical history browser with undo facility, and visual search analysis

**Author** Masuda, H.; Imamiya, A.

**Author Affiliation:** Dept. of Comput. Sci. & Media Eng., Yamanashi Univ., Takeda, Japan

**Journal:** Transactions of the Institute of Electronics, Information and Communication Engineers D-I ° °  
vol.J85D-I, no.8 ° p.798-810

**Publisher:** Inst. Electron. Inf. & Commun. Eng ,

**Publication Date:** Aug. 2002 ° **Country of Publication:** Japan

**CODEN:** DTRDES **ISSN:** 0915-1915

**SICI:** 0915-1915(200208)J85DI:8L.798:DGHB;1-0

° ° **Material Identity Number:** M972-2002-007

**Language:** Japanese ° **Document Type:** Journal Paper (JP)

**Treatment:** Practical (P)

**Abstract:** Interactive systems have provided sophisticated recovery tools that help protect users from their own mistakes. Although many graphical and direct manipulation user interfaces have undo/redo capabilities that allow the user to reverse erroneous actions, their undo/redo tools present only command history of textual representation which makes it difficult for the user to identify the desired command and state. In this paper we present the design of a graphical history browser for selective undo and an analysis of visual search tasks using the browser. The tool provides users with a dialog box of the textual command browser and a graphical history window for searching commands to be done and other uses. The features of the tool are as follows: (1) graphical history window: we developed a visualized history view, listing "history snapshots." The graphical history uses a comic strip metaphor to depict graphical states changing over time. (2) Grouping commands: a user can browse and interact with the partial history of the selected object through related commands that are selected by the search mechanism. We also provide a mechanism based on the grouping for reusing objects and commands to create a sophisticated scene. ° (20 Refs)

**Descriptors:** graphical user interfaces

**Identifiers:** graphical history browser; undo facility; visual search analysis; interactive systems; user interfaces; visual search task; dialog box; textual command browser; graphical history window; visualized history view; history snapshots; comic strip metaphor; command grouping; object reuse; command reuse

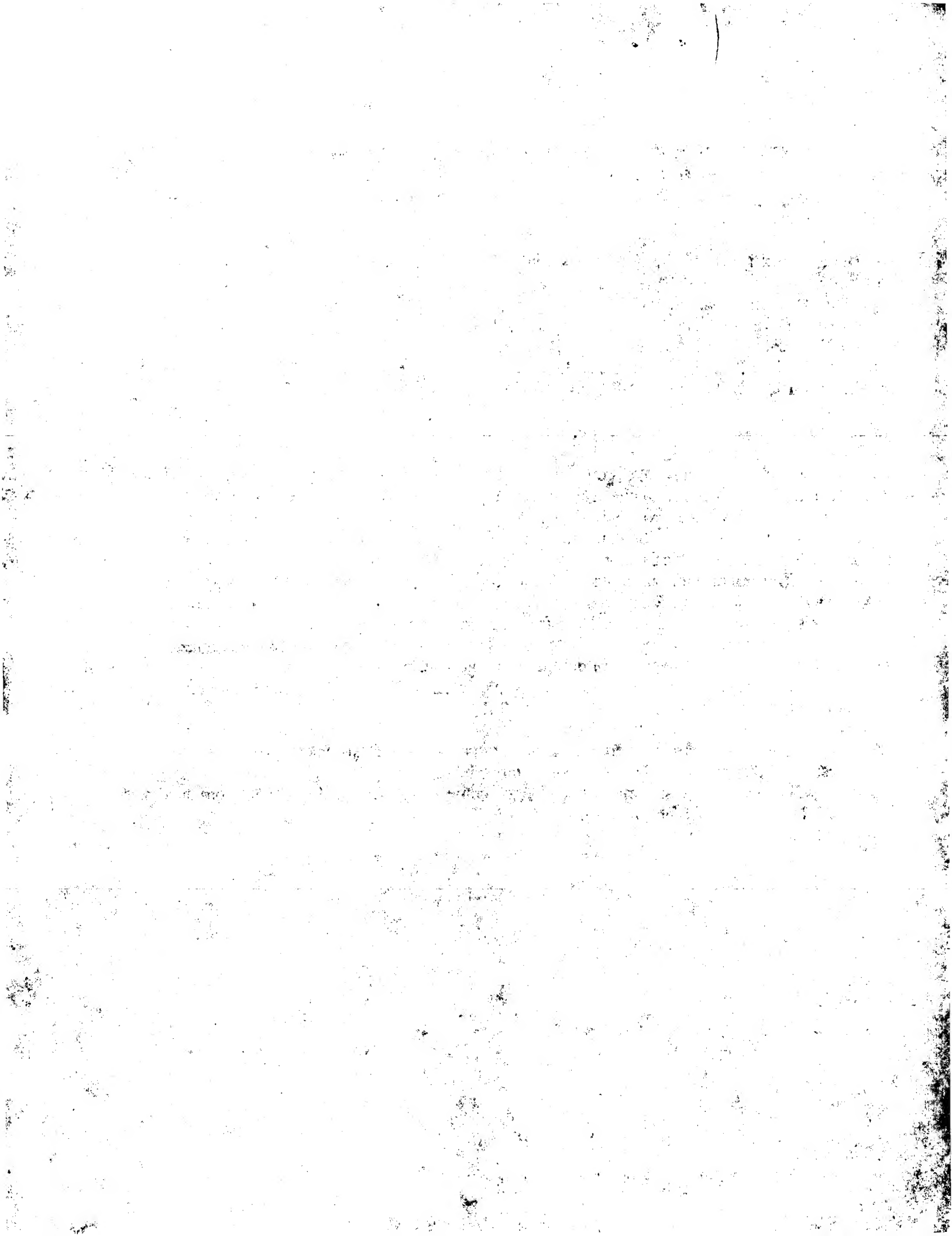
**Class Codes:** C6180G (Graphical user interfaces)

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7028987 ° **INSPEC Abstract Number:** C2001-10-7250N-014

**Title:** A study of three browser history mechanisms for Web navigation

**Author** Nadeem, T.; Killam, B.

**Author Affiliation:** Dept. of Comput. Sci., Maryland Univ., College Park, MD, USA

**Conference Title:** Proceedings Fifth International Conference on Information Visualisation ° p. 13-21

**Editor(s):** Banissi, E.; Khosrowshahi, F.; Sarfraz, M.; Ursyn, A.

**Publisher:** IEEE Comput. Soc , Los Alamitos, CA, USA

**Publication Date:** 2001 ° **Country of Publication:** USA ° xxiv+769 pp.

**ISBN:** 0 7695 1195 3 ° **Material Identity Number:** XX-2001-01684

**U.S. Copyright Clearance Center Code:** 0 7695 1195 3/2001/\$10.00

**Conference Title:** Proceedings Fifth International Conference on Information Visualisation

**Conference Date:** 25-27 July 2001 ° **Conference Location:** London, UK

**Language:** English ° **Document Type:** Conference Paper (PA)

**Treatment:** Experimental (X)

**Abstract:** Finding a previously visited page during Web navigation is a very common and important process. Although most commercial browsers incorporate a history mechanism, when accessing pages that were recently visited, users still rely mainly on the "Back" button. In this paper, we studied the effectiveness of visually enhanced history browser mechanisms on Web navigation. We used three different history mechanisms as the experiment treatments. 21 college students were the subjects of the experimental trials. With a between-subject design, three experimental groups were equally divided according to subject profiles. Users read and completed the given scenario. A quiz was given to measure user performance on the tested mechanism. At the end of the quiz, a subjective questionnaire was given to measure user satisfaction. The results showed that there is a significant statistical difference among the three mechanisms. The more visually enhanced history mechanism provided to be more effective in Web browsing. ° ( 10 Refs)

**Descriptors:** design of experiments; human factors; online front-ends; user interfaces

**Identifiers:** Web browser history mechanisms; World Wide Web navigation; previously visited Web pages; Back button; visually enhanced history browser mechanisms; college students; between-subject design; experiment design; subject profiles; quiz; user performance; subjective questionnaire; user satisfaction; statistical difference

**Class Codes:** C7250N (Search engines); C0240 (Ergonomic aspects of computing); C6180 ( User interfaces); C1140Z (Other topics in statistics)

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6096930 ° INSPEC Abstract Number: C9901-7250N-008

**Title:** WEBPATH-a three dimensional Web history

**Author** Frecon, E.; Smith, G.

**Author Affiliation:** Swedish Inst. of Comput. Sci., Sweden

**Conference Title:** Proceedings IEEE Symposium on Information Visualization (Cat. No.98TB100258) ° °p.  
3-10, 148

**Editor(s):** Wills, G.; Dill, J.

**Publisher:** IEEE Comput. Soc , Los Alamitos, CA, USA

**Publication Date:** 1998 ° **Country of Publication:** USA ° xiii+162 pp.

**ISBN:** 0 8186 9093 3 ° **Material Identity Number:** XX98-02958

**U.S. Copyright Clearance Center Code:** 0 8186 9093 3/98/\$10.00

**Conference Title:** Proceedings IEEE Symposium on Information Visualization

**Conference Sponsor:** IEEE Comput. Soc Tech. Committee on Comput. Graphics

**Conference Date:** 19-20 Oct. 1998 ° **Conference Location:** Research Triangle, CA, USA

**Language:** English ° **Document Type:** Conference Paper (PA)

**Treatment:** Practical (P)

**Abstract:** A number of usability studies report that many users of the WWW cannot find pages already visited, additionally many users cannot visualise where they are, or where they have been browsing. Currently, readily available WWW browsers provide history mechanisms that offer little or no support in the presentation and manipulation of visited sites. Manipulation and presentation of usage data, such as a browse history has been used in a number of cases to aid users in searching for previously attained data, and to teach or assist other users in their browse or searching techniques. The paper presents a virtual reality (VR) based application to be used alongside traditional Web browsers, which provides them with a flexibly tailorable real time visualisation of their history. ° ( 18 Refs)

**Descriptors:** data visualisation; information retrieval; Internet; online front-ends; real-time systems; virtual reality

**Identifiers:** WEBPATH; three dimensional Web history; usability studies; WWW users; browsing; WWW browsers; history mechanisms; browse history; searching techniques; virtual reality based application; traditional Web browsers; tailorable real time visualisation

**Class Codes:** C7250N (Search engines); C7210N (Information networks); C7250R (Information retrieval techniques); C6130B (Graphics techniques); C6130V (Virtual reality)

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5716721 ° INSPEC Abstract Number: C9711-7820-026

**Title:** Building a graphical Web history using Tcl/Tk

**Author** Hirsch, F.J.

**Author Affiliation:** Open Group Res. Inst., Cambridge, MA, USA

**Conference Title:** Proceedings of the Fifth Annual Tcl/Tk Workshop ° °p. 159-60

**Publisher:** USENIX Assoc , Berkeley, CA, USA

**Publication Date:** 1997 °**Country of Publication:** USA ° 190 pp.

° °**Material Identity Number:** XX97-01910

**Conference Title:** Proceedings of 5th TCL/TK Workshop

**Conference Date:** 14-17 July 1997 ° **Conference Location:** Boston, MA, USA

**Language:** English ° **Document Type:** Conference Paper (PA)

**Treatment:** Practical (P)

**Abstract:** The article describes the design and implementation of a Web history tool that automatically tracks user browsing activities, presents a graphic visualization of this activity, and provides a mechanism for manipulation and use of the history. This tool, called HistoryGraph, demonstrates the power of using Tcl and Tk, especially through the reuse of existing components to create a powerful application in a short time. Our goal was to create a browser independent tool which automatically creates a browsing history, making it easy to record sites visited, easy to return to sites, and possible to create trails to share with others. Unlike bookmarks, this history is displayed graphically, is directly manipulable and may be integrated with other tools which work with URLs. ° ( 7 Refs)

**Descriptors:** authoring languages; data visualisation; history; Internet; user interface management systems

**Identifiers:** graphical Web history; Tcl/Tk; Web history tool; user browsing activities; graphic visualization; HistoryGraph; Tcl; Tk; reuse; browser independent too; browsing history; URLs

**Class Codes:** C7820 (Humanities computing); C6150N (Distributed systems software); C7210 (Information services and centres); C6115 (Programming support); C6140D ( High level languages); C6180 (User interfaces); C6130B (Graphics techniques)

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